

HEXACOSONATE OF EUPHORBOL FROM EUPHORBIA JAXARTICA

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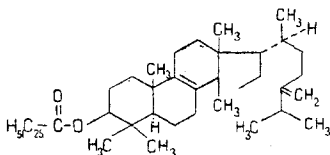
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We have previously reported the isolation from the epigeal part of E. jaxartica Benth of the triterpene compounds euphol, euphorbol, and β -sitosterol [1].

We have now investigated the roots of E. jaxartica collected in the Syr'dar'ya region in the flowering stage of the plant. The comminuted roots were extracted with chloroform. After the solvent had been distilled off, the residue was treated with acetone, and the acetone-soluble part was separated into two fractions: soluble and insoluble in petroleum ether. By chromatography on alumina, the soluble fraction yielded euphol, euphorbol, and β -sitosterol. The insoluble fraction was dissolved in a small amount of chloroform, the solution was passed through a column of alumina, and elution was carried out with a mixture of chloroform and increasing amounts of ether.

The first five fractions of the chloroform-ether eluate were shown by thin-layer chromatography on a fixed layer of silica gel in the benzene-methanol (19:1) system to contain euphorbol (R_f 0.35), euphol (R_f 0.50), and traces of a substance with R_f 0.70. Then the column was washed with chloroform, and after the solvent had been distilled off the residue was found by chromatography to contain the substance with R_f 0.70. Rechromatography on alumina led to the isolation of a substance with mp 110-111°C [butyl acetate-methanol (1: 1)]. The substance is optically inactive, and its IR spectrum has absorption bands at (cm^{-1}): 1740 (carbonyl of an ester), 725, 1470, 2920 (CH_2 groups), 1300 [sic], 2850 (CH_3 group). Consequently, the substance is an ester of a triterpene alcohol with an aliphatic acid. Elementary analysis showed the formula of the ester as $\text{C}_{28-29}\text{H}_{50-52}\text{O}$ or $\text{C}_{57}\text{H}_{100-102}\text{O}_2$. The substance was hydrolyzed by 15% methanolic caustic potash. The alkaline solution of the hydrolysate yielded crystals with mp 126-127°C identical with euphorbol, and the acidified solution, by chromatography on activated carbon of type AU-kislyi [AU acid] yielded crystals with mp 94-85°C, identified as hexacosanoic acid.

Thus, the crystals with mp 110-111°C are a new compound, euphorbol hexacosonate, and have the composition $\text{C}_{57}\text{H}_{102}\text{O}_2$ and the structure



REFERENCE

1. M. A. Azimov and Z. N. Nazirov, KhPS [Chemistry of Natural Compounds], 5, 599, 1969.

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